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10/582,967	06/15/2006	Alessandro Capuzzello	09952.0057	9101

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EXAMINER
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OBAYANJU, OMONIYI

ART UNIT	PAPER NUMBER
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2617

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07/15/2010

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/582,967	<b>Applicant(s)</b> CAPUZZELLO ET AL.	
	<b>Examiner</b> OMONIYI A. OBAYANJU	<b>Art Unit</b> 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 04 May 2010.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 21-40 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 21-40 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                        | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Response to Arguments*

Applicant's arguments filed 05/04/2010 have been fully considered but they are not persuasive.

In regards to at least the independent claim 21, Applicant amended and argued that the prior art references on record fails to teach or disclose the claimed limitations of the independent claim.

In particular, the Applicant argued and/or stated that the primary prior art reference (Garceran) fails to teach at least in part ***"associating each of a plurality of locating procedures with a different combination of at least one of the plurality of configuration data base entries and at least one of the plurality of measuring data types, wherein each of the plurality of locating procedures is configured to estimate a position of the terminal based on the associated combination and corresponds to an accuracy value of the estimated position"***.

Furthermore, the Applicant argues and/or stated that "Indeed, Garceran provides no detail about how the wireless unit determines its location information. Garceran only discloses that its location information is transmitted to a serving base station".

**In response, the Examiner** respectfully disagrees with Applicant's arguments. First, the limitation as stated above **does not provide and/or reflect any specific**

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**detail** of the claimed "location procedures" as argued by the Applicant. The claim does not uniquely and particularly define the limitation ***"associating each of a plurality of locating procedures with a different combination of at least one of the plurality of configuration data base entries and at least one of the plurality of measuring data types, wherein each of the plurality of locating procedures is configured to estimate a position of the terminal based on the associated combination and corresponds to an accuracy value of the estimated position"*** so as to distinguish from the applied prior art. During patent examination, the claims must be given their broadest reasonable interpretation. See also MPEP §2111. The limitation is broadly claimed, therefore, broadly interpreted. Broadly interpreted, ***"associating each of a plurality of locating procedures with a different combination of at least one of the plurality of configuration data base entries and at least one of the plurality of measuring data types, wherein each of the plurality of locating procedures is configured to estimate a position of the terminal based on the associated combination and corresponds to an accuracy value of the estimated position"*** is fairly characterized as determining the location of or at a wireless unit, and the location is determined along with different associated parameters such as signal quality measurement RSSI, BER, and FER (col.4, lines 14-20, lines 1-10, col. 3, lines 45-50).

Second, in regards to at least the amended claim ***"...wherein each of the plurality of locating procedures is configured to estimate a position of the terminal based on the associated combination..."*** Garceran further teaches this determining location and/or position of a wireless unit based on determined location

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information with associated or included signal quality measurement parameters as similarly discussed above.

In regards to other similar independent claims and the dependent claims, the rejections stands for at least the same reasons as applied to the independent claim discussed above.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 21-28, 32, 37-40, are rejected under 35 U.S.C. 103(a) as being unpatentable over Garceran et al. (US Patent No. 6522888) in view of Patrick (US Publication No. 20070135134).

As to claims 21 and 40, Garceran teaches a method for locating a terminal in a local wireless telecommunications network performed at a locating system (abs, and col. 2, lines 6-25) that provides a location estimation of the terminal depending on a set of configuration data and on a set of measuring data (col. 3, lines 15-25), wherein the network comprises a plurality of base stations providing services on a plurality of coverage areas comprising (fig.1 #24a-g, and abs): defining a set of configuration data

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comprising a plurality of configuration data base entries (col. 4, lines 40-45 and col. 15, lines 5-10), each configuration data base entry having a respective weight function (col. 4, lines 50-60); acquiring a set of measuring data from the terminal or the network comprising a plurality of measuring data types, wherein each measuring data type depends on the type of terminal and the set of measuring data indicates whether the terminal belongs to a subset of said plurality of coverage areas (geographical region serviced) (col. 3, lines 30-35 and lines 40-45); associating, each of a plurality of locating procedures with a different combination (col. 4, lines 5-15) of at least one of the plurality of configuration data base entries and at least one of the plurality of measuring data types, wherein each of the plurality (different, col. 15, lines 5-10) of locating procedures is configured to estimate a position of the terminal based on the associated combination (col.4, lines 14-20, lines 1-10, col. 3, lines 45-50) and corresponds to an accuracy value of the location estimation (col. 3, lines 45-50); and selectively actuating at least one of the plurality of locating procedure procedures obtained from said associating step to provide the estimated position (col. 4, line 63-67 and col. 3, lines 45-50). However, Garceran fails to teach that the locating system is located remotely from the terminal and the plurality of base stations.

But, Patrick teaches that the locating system (fig. 1 and fig. 5, #25) is located remotely from the terminal (fig. 1 and fig. 5, #40) and the plurality of base stations (fig. 1 and fig. 5, #35). Thus It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the teachings of Garceran with the teachings of Patrick to achieve an efficient communication system, since it has been

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held that forming in one piece an article which has formally been formed in two pieces and put together involves only routine skill in the art. *Howard v. Detroit Stove Works*, 150 U.S. 164 (1893).

As to **claim 22**, Garceran teaches wherein said selectively actuating comprises selecting one of the plurality of locating procedures depending on a set of available measuring data (col. 4, line 63-67) and on a prefixed accuracy threshold value (col. 3, lines 55-60) of the location estimation, in such a way that said one of the plurality of locating procedures has an accuracy value that is not less than the prefixed threshold value (col. 12, lines 1-5), minimizing the weight function of the at least one of the plurality of configuration data base entries associated with said one of the plurality of locating procedures (col. 12, lines 1-5, reducing path loss, and col. 4, line 63-67).

As to **claim 23**, Garceran in teaches similar limitations as discussed in claim 21 above.

As to **claim 24**, Garceran teaches wherein said selectively actuating comprises selecting one of the plurality of locating procedures (col. 4, line 63-67) depending on a set of available measuring data and on a prefixed set of available configuration data (col. 3, lines 15-25), in such a way that said one of the plurality of locating procedures has the best response speed to the location estimation request (col. 6, lines 40-45).

As to **claim 25**, Garceran teaches wherein selectively actuating comprises a step of selecting one of the plurality of locating procedures (col. 4, line 63-67) depending on a set of available measuring data and on a prefixed set of available configuration data (col. 3, lines 15-25), in such a way that said one of the plurality of locating procedures

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has a pricing (rates) value in compliance with a value predefined by a user (col. 3, lines 61-65).

As to **claim 26**, Garceran teaches wherein said set of configuration data comprises at least one configuration data base entry among the plurality of configuration data base entries related to: radio-electric or performance parameters of signals transmitted from the base stations, in predetermined space positions belonging to the coverage area of the network (col. 3, line 10-25).

As to **claim 27**, Garceran teaches wherein said set of measuring data acquired by the terminal or the network comprises at least one measuring data type among the plurality of measuring data types related to: identification of the base station by which the terminal is served (col. 3, line 40-45).

As to **claim 28**, Garceran teaches further comprising temporarily excluding (different or change) of a set of configuration data from said plurality of configuration data base entries (col. 5, lines 64-67).

As to **claim 32**, Garceran teaches further comprising creating and maintaining a data base for storing a time succession of estimated positions of the terminal (col. 4, lines 50-60).

As to **claim 37**, Garceran teaches a processing system for locating a terminal in a local wireless telecommunications network (fig. 4, #78) by providing a location estimation of the terminal (col. 3, lines 15-25), wherein the network comprises a plurality of base stations (fig.1 #24a-g) that provide services on a plurality of coverage areas (abs) comprising: storage modules (fig. 2, #52) for storing a plurality of configuration



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data parameters and a plurality of measuring data types acquired (collected location information) from the terminal or the network (col. 3, lines 15-25, and abs) and indicating whether the terminal belongs to a subset of said coverage areas (col. 3, lines 30-35 and lines 40-45) and a locating processing module that associates each of a plurality of locating procedures with a different combination of at least one of the plurality of configuration (different configuration, col. 15, lines 5-10) data parameters and at least one of the plurality of measuring data types, (col. 3, lines 45-50), and that performs one of the plurality of locating procedures related to a selected combination to provide (col. 3, line 45) the location estimation, wherein each of the plurality of locating procedures is configured to estimate a position of the terminal based on the associated combination (col.4, lines 14-20, lines 1-10, col. 3, lines 45-50) and corresponds to an accuracy value of the estimated position (col. 3, lines 45-50). However, Garceran fails to teach that the processing system is located remotely from the terminal and the plurality of base stations.

But, Patrick teaches that the processing system (fig. 1 and fig. 5, #25) is located remotely from the terminal (fig. 1 and fig. 5, #40) and the plurality of base stations (fig. 1 and fig. 5, #35). Thus It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the teachings of Garceran with the teachings of Patrick to achieve an efficient communication system, since it has been held that forming in one piece an article which has formally been formed in two pieces and put together involves only routine skill in the art. *Howard v. Detroit Stove Works*, 150 U.S. 164 (1893).

As to **claim 38**, Garceran teaches a local wireless telecommunications network, comprising a processing system for locating a network terminal (abs, lines 1-5).

As to **claim 39**, Garceran teaches a telecommunications network (abs)

Claims 29, 30, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Garceran et al. (US Patent No. 6522888) in view of Patrick (US Publication No. 20070135134) and further in view of Hussa (US Publication No. 20040156372).

As to **claim 29**, Garceran in view of Patrick teaches the limitations of claim 21 as discussed above. However, they failed to teach transferring, to the terminal of the network, processing programs for performing at least one subset of locating procedures and at least one subset of said plurality of configuration data base entries (base station coordinates) used by the transferred locating procedures, whereby the location estimation is performed by the terminal and information about estimated position and estimation accuracy are transmitted from the terminal to a locating system upon every service request.

But, Hussa teaches transferring, to the terminal of the network (mobile based positioning), processing programs for performing at least one subset of locating procedures (pg. 4, pp0038, lines 24-26), and at least one subset of said plurality of configuration data base entries (base station coordinates) used by the transferred locating procedures (pg. 4, pp0038, lines 6-9), whereby the location estimation is performed by the terminal and information about estimated position and estimation

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accuracy are transmitted from the terminal to a locating system upon every service request (pg. 4, pp0038, lines 30-34). Thus it would have been obvious to one of ordinary skill in the art at time the invention was made to modify the teachings of Garceran and Patrick with the teachings of Husa to achieve a communication device that can efficiently and accurately calculate the position of a wireless device in a communication network.

As to **claim 30**, Garceran in view of Patrick teaches the limitations of claim 29 as discussed above. However, they failed to teach wherein a synthesis or model of configuration data base entries is transferred.

But, Husa teaches wherein a synthesis or module of configuration data base entries (base station coordinates) transferred (downloaded) (pg. 4, pp0038, lines 6-9). Thus it would have been obvious to one of ordinary skill in the art at time the invention was made to modify the teachings of Garceran and Patrick with the teachings of Husa to achieve a communication device that can efficiently and accurately calculate the position of a wireless device in a communication network.

As to **claim 31**, Garceran in view of Patrick teaches the limitations of claim 29 as discussed above. Garceran further teaches locating accuracy and/or the applied pricing (rates, col. 6, lines 40-45).

However, they failed to teach wherein the selection of the at least one subset of said plurality of locating procedures that can be performed by the terminal occurs depending on measures that the terminal.

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But, Husa teaches the terminal performing the signal measurement and calculates the location estimate (pg. 4, pp0038, lines 24-26). Thus it would have been obvious to one of ordinary skill in the art at time the invention was made to modify the teachings of Garceran and Patrick with the teachings of Husa to achieve a communication device that can efficiently and accurately calculate the position of a wireless device in a communication network.

Claims 33-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Garceran et al. (US Patent No. 6522888) in view of Patrick (US Publication No. 20070135134) and further in view of Riley et al. (US Publication No. 20030125046).

As to **claim 33**, Garceran in view of Patrick teaches the limitations of claim 21 as discussed above. Garceran further teaches wherein at least one of the plurality of locating procedures associated with a combination of at least one of the plurality of configuration data base entries and at least one of the plurality of measuring data types (col. 7, lines 60-65) wherein the at least one of the plurality of configuration data base entries relates to locating coordinates of the base stations (col. 7, lines 60-65), locating coordinates of the base stations and radio electric characteristics of the network, or locating coordinates of the base stations and radio electric characteristics of the network and the structural/electromagnetic characteristics in which the network is deployed (col. 8, lines 5-10), and the at least one of the plurality of measuring data types relates to the identification of the base station by which the terminal is being served (col. 4, lines 20-

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25). However, they failed to teach estimates the position of the terminal corresponding to the barycenter coordinates of the coverage area of said base station and an uncertainty value, the uncertainty value being defined by the distances from said barycenter to all points of the coverage area.

But, Riley teaches estimates the position of the terminal corresponding to the barycenter (centriod) coordinates of the coverage area of said base station and an uncertainty value, the uncertainty value being defined by the distances from said barycenter to all points of the coverage area (pg. 4, pp0041, lines 1-12). Thus it would have been obvious to one of ordinary skill in the art at time the invention was made to modify the teachings of Garceran and Patrick with the teachings of Riley to efficiently and accurately determine a precise point or position of a wireless device in a communication network.

As to **claim 34**, Garceran in view of Patrick teaches the limitations of claim 33 as discussed above. Garceran further teaches wherein the at least one of the plurality of locating procedures and the identifications of the base stations received by the terminal (col. 4, lines30-35), the terminal is served comprising the points nearer to the base stations received by the terminal with respect to unreceived base stations (neighboring base station) (col. 9, lines 35-44), and the at least one of the plurality of measuring data types further relates to the identification of the base station by the terminal (col. 4, lines 20-25).

However, they failed to teach estimates the position of the terminal corresponding to the barycenter coordinates of the coverage sub-area of said base

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station, and an uncertainty value, the uncertainty value being defined by the distances from said barycenter to all points of the area.

But, Riley teaches a position estimate of a mobile station based on the barycenter (centroid) of a coverage area, and the uncertainty measured in association with the barycenter to all points of the area (pg. 4, pp0041, lines 1-12). Thus it would have been obvious to one of ordinary skill in the art at time the invention was made to modify the teachings of Garceran and Patrick with the teachings of Riley to efficiently and accurately determine a precise point or position of a wireless device in a communication network.

As to **claim 35**, Garceran in view of Patrick and further in view of Riley teaches similar limitations as discussed in claim 34 above.

As to **claim 36**, Garceran in view of Patrick teaches the limitations of claim 34 as discussed above. Garceran further teaches wherein the at least one of the plurality of locating procedures (method) and the at least one of the plurality of measuring data types further relates to at least one radio-electric (col. 7, lines 60-65) or performance parameter transmitted from said server base station (col. 8, lines 5-10) and depending on the distance from said base station to the terminal and at least one radio-electric (col. 3, lines 35-45) or performance parameter of the signal transmitted from received base stations and depending on the distance from said base stations to the terminal (col. 7, lines 60-65). However, they failed to teach estimates the position of the terminal corresponding to the barycenter coordinates of a coverage sub-area of the base station by which the terminal is served, defined depending on the distances from said base

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stations to the terminal and estimated depending on said parameters and an uncertainty value, the uncertainty value being defined depending on the distances from said barycenter to all points of the sub-area.

But, Riley teaches estimates the position of the terminal corresponding to the barycenter (centroid) coordinates of a coverage sub-area of the base station by which the terminal is served, and an uncertainty value, the uncertainty value being defined depending on the distances from said barycenter to all points of the sub-area (pg. 4, pp0041, lines 1-12). Thus it would have been obvious to one of ordinary skill in the art at time the invention was made to modify the teachings of Garceran and Patrick with the teachings of Riley to efficiently and accurately determine a precise point or position of a wireless device in a communication network.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to OMONIYI A. OBAYANJU whose telephone number is (571)270-5885. The examiner can normally be reached on Mon - Fri, 7:30 - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vincent P. Harper can be reached on 571-272-7605. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/O. A. O./  
Examiner, Art Unit 2617

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